

Years of association have given the Esavian people complete mastery over doors of appalling proportions. They make less fuss over opening a 200ft. expanse than is occasioned by many a garden gate.

*Felco Hoists, Ltd., 17, Victoria Street, Westminster, London, S.W.1 (D.103).*—Felco lifting appliances are notable for their uncompromising power and relatively small dimensions. They should find plenty of applications in any works. Their pedigree shows a complete absence of castings which, it is claimed, makes not only for strength, but for lightness.

*Firth, Thos., and John Brown, Ltd., Sheffield (D.619).*—Firth-Brown have every reason to be proud of their connection with the more recent engineering wonders. To mention a few examples: The *Queen Mary* is constructed throughout with F.-B. steels, and large portions of F.-B. metal went toward the making of Capt. George Eyston's *Thunderbolt*, and also the L.N.E.R. *Silver Jubilee* streamlined locomotive. By no means forgotten is the Supermarine Schneider Trophy seaplane with Rolls-Royce R engine in which F.-B. steels figured.

Completed only a week ago, a new Firth-Brown hardness-testing machine gives a variable load from 2 to 30 kilograms, and readings are in diamond hardness. The hardness of very thin sections can be measured with its aid.

*Fletcher Miller, Ltd., Dukinfield, Manchester (D.208).*—There is a brand of Fletcher Miller cutting oil for every machining operation, and although the term "straight cutting oil" has no bearing on the type of cut, it is probable that a very different quality cut would result was the oil absent. Many an aero cylinder fin has taken shape under a spray of milky F.-M. cutting oil.

*Fox, Samuel, and Co., Ltd. (United Steel Companies, Ltd.), Stocksbridge, Sheffield (D.613, 512).*—Specially prepared for highly stressed moving parts, as in aero engines, inspected "Diamet" electric steels are widely used for such components.

Alloy and special steels are the forté of Samuel Fox who, at Stocksbridge, have a steel laboratory that rivals any in the world. Silver Fox stainless steels have a daily increasing market.

Recently type-tested, an Alvis two-

row, fourteen-cylinder, Pelides engine occupies a corner of the Fox stand.

*Firth-Vickers Stainless Steels, Ltd., "Staybrite" Works, Sheffield (D.413 and 314).*—Exhaust manifolds present a particularly ticklish problem to the metallurgists, being exposed not only to very severe heat but to the weather on the outside. Firth-Vickers heat-resisting steels are intended to meet their particular requirements. Exhaust valves, too, are catered for. These components have a rough time of it in the modern high-duty engine.

Yachtsmen and flying-boat operators alike profit from the use of Staybrite steel for wire rope and fittings, as represented in the Firth-Vickers exhibit. The other multitudinous applications of Firth-Vickers steel are too well known to need mention.

*General Electric Co., Ltd., Kingsway, London, W.C.2 (Cb.517, 414).*—All readers of *Flight* whose daily business concerns them with such things know how often and how vitally the name of G.E.C. is linked with such things as aerodrome lighting (floodlights, beacons, obstruction lights, etc.), works lighting (now particularly valued in the aircraft industry by reason of the G.E.C. Osira mercury-vapour lamps), and electrical equipment—furnaces, motors, etc.—of all kinds for factories and workshops.

It is, then, a revelation to see this B.I.F. exhibit and realise, perhaps for the first time, the almost limitless scope of this concern in other fields, such as those of domestic electricity and decorative lighting. The visitor comes away even more aware of the accumulated background of general experience which lies behind the specialised knowledge in the manufacture of G.E.C. products for the aircraft industry.

*Gilman, F. (B.S.T.), Ltd., Smethwick, Birmingham (Cb.516).*—Difficulties only exist to be overcome, and Gilman's time is devoted to getting round anything. With the use of the special flexible drive various types of which are ready for examination at Birmingham, grinding, drilling, and polishing operations all become simplified.

The driving motor can be placed or hung out of the way and the power conveniently relayed to where it is required.

Gilman's, incidentally, are the first and only British firm to produce rotary milling shapes.



"Uncommon" alloys form the bulk of the I.C.I. metals exhibit.

*Guest, Keen and Nettlefolds, Ltd., Smethwick, Birmingham (B.524).*—Screw eyes, rods, wire, thumbscrews, clout pipes . . . not a list of stores for Spanish Inquisition, but just a few of thousands of small parts that are everyday requirements in aircraft, railways, cars, and ships, in factories and hotels and in parks, fields, and gardens. Guest, Keen and Nettlefold, primarily famed as makers of wood screws, know all about them.

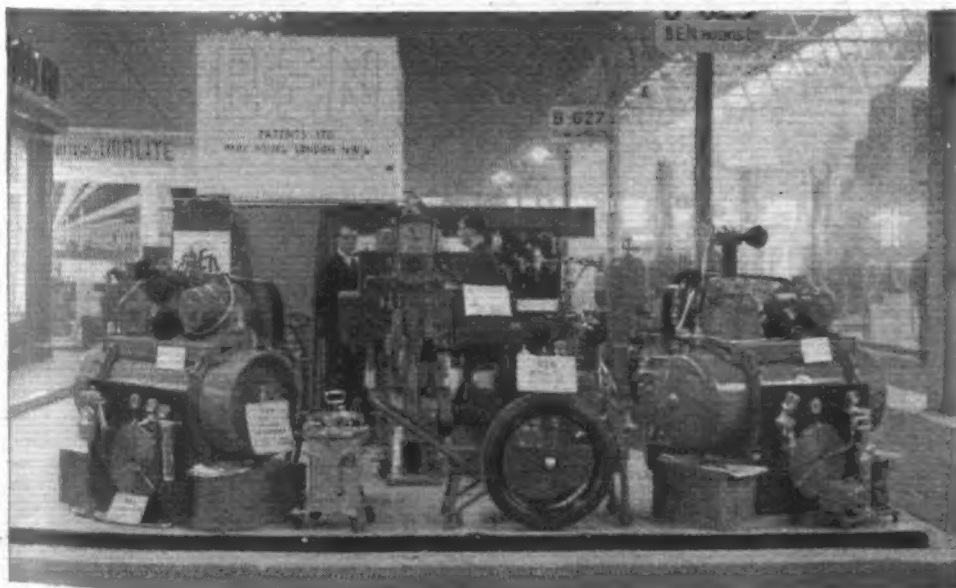
Particularly interesting for aircraft industry is a hardened self-tapping screw; inserted in an untapped hole in metal, it cuts its own thread, as does a wood screw in wood.

*M.C.L. and Repetition, Ltd., Pool Lane, Langley, nr. Birmingham (D.406).*—Allowances for forced, driving, push and running fits are all matters of moment in the M.C.L. and Repetition organisation, but Stand D.406 is becoming associated also with fits of laughter at the incredibly clever "zoo" of model animals composed entirely of the firm's products. The fantastic shapes of many of the repetition parts for which the company is famed throughout the industry lend themselves to the most delightful anatomical compositions.

Arrays of nuts, bolts and screws are by no means the easiest exhibits to "put over," but some genius has made this stand one of the most attractive in the whole B.I.F.

*National Benzole Co., Ltd., Wellington House, Buckingham Gate, London, S.W.1 (D.618).*—People nowadays, according to the cynics, want to be amused, not instructed. If they go along to the "Nat. Benz." stronghold they will (if they are not hardened show- and fair-goers) be intensely fascinated and simultaneously educated by the display demonstrating the production of National Benzole spirit from British coal. The embryonic spirit, after the carbonising of the coal, goes round and round and comes out (just like the music) at the end of a sequence of refining processes.

*I.C.I. Metals, Ltd., Witton, Birmingham (D.403, 302).*—The aircraft metals supplied by I.C.I. mainly consist of the less common alloys, e.g., brass, cupronickel and phosphor-bronze are produced, together with Everdur and other non-ferrous alloys. The variety of sales is not limited to form only (i.e., tube, wire, rod, extruded sections or sheets), but also covers properties such as temper, finish, etc.



How to compress air and, having compressed it, turn it to good and profitable use; the B.E.N. Patents display.